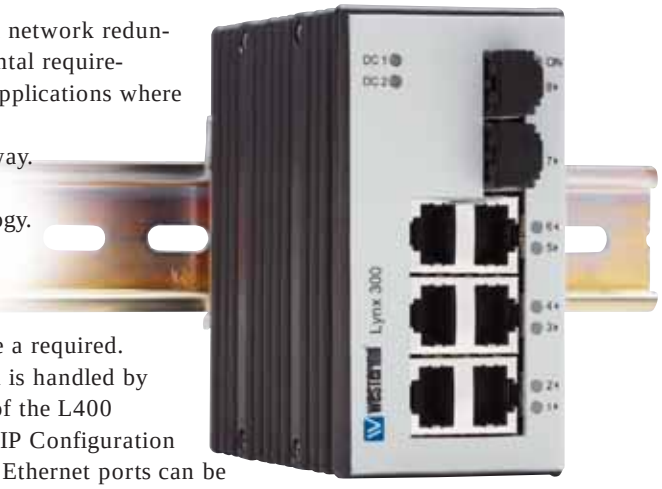
LynxSwitch L400 series

Managed Industrial Ethernet Switch. FRNT v0 – redundant ring with 20 ms recovery time • SNMP • IGMP snooping • VLAN



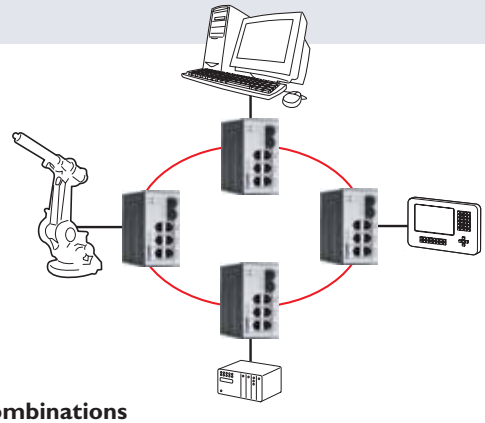
The L400 LynxSwitch supports full management including fast network redundancy and the switch fulfills the toughest industrial environmental requirements. High MTBF numbers makes the switch the choice for applications where temperature, vibration and insulation are critical parameters.

The Lynx switches are approved for industrial, marine, railway. The Fast Re-configuration of Networks Topology (FRNT) concept offers ultra fast re-configuration of the network topology. The FRNT concept eliminates failures caused by network links and/or switches.

A redundant ring topology is an excellent choice when high availability and fast re-configuring of the network topology are a required.

FRNT recovery time is as fast as 20 ms. High multicast load is handled by the IGMP snooping feature of the L400 switch. Management of the L400 switches is easy and is done by the user in the Windows based IP Configuration tool or SNMP. The IP configuration tool is free and any of the Ethernet ports can be used for this purpose. Thus, no serial port is required for setting the configuration parameter on the L400 switch. This means that the L400 can be mounted and installed prior to configuration. Excellent real time properties are offered through both layer 2 and layer 3 priority support with four priority queues and the switch is incorporated with a fault contact in order to indicate any switch failures including user configurable port alarms.

- FRNT v0 – redundant ring
- SNMP
- IGMP snooping
- VLAN
- IP Configuration tool for configuration of:
  - Port setting (auto-negotiation, HDX/FDX and 10/100 Mbit/s)
  - Port alarm configuration.
- Real time Ethernet:
  - QoS based on layer 2 (IEEE802.1p) and layer 3 (IP ToS)
  - Four priority queues
  - Strict priority scheduling
  - Head of Line blocking prevention for low priority packets
- True industrial specification
  - Full metal housing, IP40
  - Wide temperature range (–40 to +70°C)
  - Wide DC power range (19 to 60 VDC)
  - No moving parts or electrolytic capacitors
  - Low power consumption (Typical 5 W for no fibre version, 5,7 W for one fibre transceiver and 6.4 W for two fibre transceivers)
  - Redundant power input with polarity protection
  - Input Power Monitoring
  - High MTBF numbers
  - CE approved for industrial use
  - DNV approved for marine use (optional)
- Auto MDX/MDIX technology to ease switch connection
- User configurable fault contact
- 35 mm DIN rail mounting



Lynx models

The L400 series is available in different models approved for different use:

- Lynx 40x – Standard Industrial (default)
- Lynx 41x – Marine
- Lynx 42x – Rail
- Lynx 43x – SA (contact Westermo) (includes a wider input power range – 110 VDC)
- Lynx 44x – Defense (contact Westermo)

Port combinations

The L400 series offers full flexibility regarding port combinations. Copper (TX), Multi Mode (MM) fiber and/or Single Mode (SM) fiber can be combined on the same switch. As below:

L4x6 6 ports 10/100Base TX • L4x7F1 1 port fiber, single- or multimode 100BASE and 6 ports 10/100Base TX
L4x8F2 2 ports fiber, single- or multimode 100BASE and 6 ports 10/100Base TX

Both single mode (SM) and multi mode (MM) fiber transceivers with LC connectors are supported with a range from 2 km to 120 km.

Technical Data

LynxSwitch type	L406	L407-F1-MM	L408-F2-MM	L407-F1-SM	L408-F2-SM
Ports					
10/100Base T / TX Ports (RJ45) Autonegotiation. Auto MDX/MDIX Support long cable 150 m (Cat5e)	6	6	6	6	6
100 FX Multimode ports (2 km)		1 (LC connector)	2 (LC connector)		
100 FX Singlemode ports (15 km) (Options: 40, 85 and 120 km)				1 (LC connector)	2 (LC connector)
Power					
Input power Transient protected	19–60 VDC redundant inputs with input voltage supervision				
Power consumption (Typ)	5 W	5.7 W	6.4 W	5.7 W	6.4 W
Isolation	1500 Vrms basic isolation according to EN60950				
Physical dimensions (DIN clip included)					
Dimension (W x H x D)	52.5 x 100 x 101 mm				
Weight	600 g				
Environmental					
Enclosure	IP40				
Temperature (storage)	–40 to + 85°C				
Temperature (operational)	–40 to + 70°C (40 to 85 km fibre may limit range)				
Humidity	Humidity 5–95% RHD non-condensing (100% for coated version).				
Altitude	2000 m				
EMC	EN 61000-6-2 industrial immunity EN 50081-2 industrial emission				
Vibration	IEC 255-21-1 Class 1 IEC 255-21-2 Class 1				
Safety	EN 60950				
Maritime (optional)	Det Norske Veritas (DNV) (Equivalent to Germanischer Lloyd and ABS)				
Railroad (optional)	Approved for track side and train side (on board) use				
Miscellaneous					
Fault contact	Potential free electronic relay contact, glitch free switching, current rating 120 mA continuous, voltage rating 60 V. Isolation withstands 1500 Vrms basic isolation according to EN 60950 Transient protected				
LED indications	ON/FAIL LED indicates the unit's operational mode (Green: OK/ Red: fail). Port LEDs indicates green for link and flashing green for activity. Port LEDs can also indicate yellow for non-link condition on a port configured for link monitoring (active link expected). Input voltage supervision LEDs (standard power supply) indicates green for input voltage within range and red for input voltage out of range.				
QoS (Quality of Service	High-speed non blocking QoS switch fabric with 4 traffic classes. 1 Mbit shared frame buffer.				

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